

REMARKS

Claim 1 stands objected to due to certain informalities including the term “like” on line 2, and “the material” on line 8.

Claim 9 stands objected to for certain informalities including “like” on line 2.

Claims 4-8 and 13-18 stand objected to under 37 CFR 1.75(c) as being improper due to multiple dependent claims that depend upon other multiple dependent claims.

Claims 1-19 stand rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention because the claims are generally narrative and indefinite, and fail to conform with current U.S. practice.

Claim 19 stands rejected under 35 U.S.C. § 102(b) as being anticipated by German Patent Application No. DE 19647831 A1.

Claims 1-3 and 9-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over German Patent Application No. DE 194647831 A1 or United States Patent No. 6,146,072 to *Müller* in view of United States Patent No. 5,208,974 to *Sawdon, et al.* Claims 1 through 19 have been cancelled in favor of new claims 20 through 34, each of which correspond to original claims 1 through 19, but have been rewritten to overcome multiple 35 U.S.C. § 112 rejections, claim objections for improper multiple dependent claim format, and to bring the claims up to present United States practice.

Regarding German Patent Application No. DE 19647831 A1 and United States Patent No. 6,146,072, both to *Muller*, a press form element, and method of installation and assembly for the press form element is disclosed. The auxiliary joining element 10 is formed having a foot 14, that defines a tubular shape, the inside of which is preformed with undercut regions 20, 70. A die button 60 depresses a sheet metal part 52 into the foot 14 forcing the sheet metal part 52 into the undercut region 20, 70. Both of these *Muller* references fail to disclose die parts that

are movable radially inwardly of a wall of a die, thereby forming simultaneously into a foot of an auxiliary joining element and into a sheet metal work-piece forming undercuts for retaining the auxiliary joining element to the sheet metal work-piece. Furthermore, the *Muller* references fail to disclose a die having any movable die parts that reshape the foot of the auxiliary joining element.

Regarding United States Patent No. 5,208,974 to *Sawdon, et al.*, a die is disclosed having movable die parts 42, 142 that interact with a punch 36 while forming a sheet metal part 14 around a fastener 12. However, the movable die parts 42, 142 are merely forced outwardly from the fastener 12 during depression by the press 36 and do not provide any inwardly directed force to form an undercut into either the fastener 12 or the sheet metal part 14. Specifically, *Sawdon, et al.* fails to disclose forcing die parts radially inwardly of a wall in a die thereby simultaneously deforming a sheet metal work-piece into a foot of an auxiliary joining element thereby forming spaced undercuts into the foot. Accordingly, Applicant respectfully submits that new independent claim 20 is in a condition for allowance over the prior art cited by the Examiner.

Regarding new independent claim 29, an auxiliary joining element and sheet metal work-piece assembly is disclosed having a plurality of undercut regions restricted in a peripheral direction into a foot, thereby retaining the auxiliary joining element to a sheet metal work-piece with the undercut regions being spaced by wall sections extending generally parallel to an axis of the foot. None of the prior art references cited by the Examiner disclose this combination of elements. Furthermore, Applicant submits United States Patent No. 6,108,893 pursuant to a Supplemental Information Disclosure Statement showing an auxiliary joining element 12 forming an assembly with a sheet metal work-piece 30, wherein an undercut region 24 encircles the entirety of the foot of the auxiliary joining element. Applicant respectfully submits this prior art reference is relevant to the patentability of new independent claim 29. However, Applicant

further submits this reference fails to disclose a plurality of undercut regions restricted in a peripheral direction into a foot that are spaced by wall sections extending in a generally parallel direction to a central axis of the foot.

Also pursuant to the Supplemental Information Disclosure Statement, Applicant respectfully submits United States Patent No. 6,651,300 that was recently brought to the attention of the Assignee of the present application. Rudolph Muller, the inventor of both the present application and the '300 reference previously filed the '300 application while working for a different assignee than that of the present application. The '300 reference shows a die having similar features as that disclosed in the present application. However, the die 5 merely interacts with a plunger 4 to deform first and second work-pieces 2, 3 to interlock the work-pieces 2, 3. The '300 patent does not disclose a die used to affix an auxiliary joining element to a sheet metal work-piece forming an assembly. Therefore, Applicant respectfully submits that new independent claims 20 and 29 are patentable over the '300 patent. Additionally, Applicant submits new independent claim 34 reciting a die combination having a plunger 9 adapted to support an auxiliary joining element to form an auxiliary joining element into a sheet metal work-piece, thereby securing the auxiliary joining element to the sheet metal work-piece. Accordingly, Applicant respectfully submits that new independent claim 34 is also in a condition for allowance.

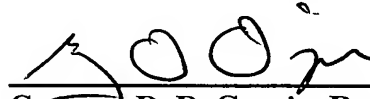
New claims 21-28 depend from independent claim 20, and therefore, include each and every limitation recited in independent claim 20. Therefore, Applicant respectfully respects that new claims 21-28 are also in a condition for allowance.

New claims 30-33 depend from independent claim 29, and therefore, include each and every limitation recited in independent claim 20. Therefore, Applicant also submits that new claims 30-33 are also in a condition for allowance.

Attached is a check in the amount of \$475.00 as required by the late filing of this Amendment. The Commissioner is authorized to charge our Deposit Account No. 08-2789 for any additional fees or credit the account for any overpayments regarding this Amendment.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.

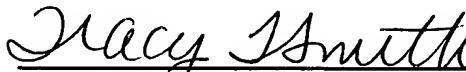


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CERTIFICATE OF EXPRESS MAILING

I hereby certify that the enclosed **Amendment** is being deposited with the United States Postal Service as Express Mail, postage prepaid, in an envelope as "Express Mail Post Office to Addressee," Mailing Label No. **EL997489938US** and addressed to **Mail Stop Fee Amendment**, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **April 28, 2004**.



Tracy L. Smith